IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the application of:
VINCENT SHANNI

Docket: HOM-1 C1

Serial Number: 10/552,100

Group Art Unit: 3633

Filed: September 30, 2005

Examiner: Jason R. Holloway

For: PREFABRICATED FOLDING STRUCTURE HAVING INTERLOCKING METAL BEAMS

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal to the Board of Patent Appeals and Interferences from the Final Rejection of claims 1-6, 8-17, 19-28, 30-33 and 37, mailed November 24, 2009 in the above identified case. A Notice of Appeal was filed on May 24, 2010. An oral hearing is not requested.

Petition for Extension of Time: The Applicants hereby petition the Commissioner to extend the time for filing this Appeal Brief from July 24, 2010 to December 24, 2010. The required Extension of Time fee for a response within the 5th month is $1,175.00

A credit card authorization is provided herewith for the required appeal brief fee of $270.00 and the extension fee of $1,175.00 totaling $1445.00.

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I. REAL PARTY IN INTEREST

The real party in interest is Vincent Shanni, the inventor of record.

II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, please note that there are no other related applications on appeal or subject to an interference known to Appellant or Appellant's legal representative.

III. STATUS OF CLAIMS

The claims in the application are 1-37. Claims 1-6, 8-17, 19-28, 30-33, and 37 are pending, stand rejected and are on appeal. Claims 7, 18, 29, and 34-36 have been canceled. No claims are allowed.

IV. STATUS OF AMENDMENTS

No response was filed after final rejection.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The currently pending independent claims are as follows:

1. A prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a

folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core and positioned in close proximity to and substantially parallel to a corresponding core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members; and

wherein said core walls and room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Support for claim 1 can be found throughout the originally filed specification, specifically from page 3, line 24 through page 4, line 26. A generally rectangular central core is disclosed on page 14, lines 12-15. Page 17, lines 20-28, as well as the drawing figures, provide support for the central core having a plurality of core walls (22, 23, 24, 26, 27), a core floor section (41), and a core roof section (50, 53). Support for metal channel beams

and studs having at least one flat side can be found on page 30, lines 4-5. Page 24, lines 11-14, describes the rooms arranged about the central core. Wall sections, floor sections, roof sections are described throughout the specification, such as at page 14, lines 10-25, and page 17, line 20, through page 18, line 1. Pivoted connections between the floor sections, roof sections, and wall sections are described throughout the specification. For example, page 23, lines 18-19, provide that at the end walls of the house, the ceiling and roof section are pivotally joined. Page 27, line 28, through page 28, line 2, describes that the ceiling members may be pivotally attached to each other, and likewise that the pivoting floor sections may be so connected to the core floor. Detachable wall members are disclosed on page 17 at line 22. Inward and outward pivoting of floor and roof sections can be found on page 21, lines 17-28, and page 22, lines 23-25. Further support is provided on page 14, lines 15-21, page 15 line 13-18, page 17 at lines 23-25, and Figs.2-3. Pivoting roof sections are disclosed at page 15, line 23 through page 16, line 4. Additional support is provided on page 16, lines 19-21. Support for positioning the pivoting floor sections substantially parallel to the core wall is found on page 14, lines 14-15, and page 19, lines 18-21. Page 30, lines 15-23 describe metal channel studs positioned within a notch cut into an edge flange of a metal channel beam, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

12. A multistory prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a

folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

a sub-core attached under the central core, said sub-core comprising a generally rectangular central sub-core comprising a plurality of sub-core walls, a sub-core floor section connected to and extending between the sub-core walls at a base of the sub-core walls, each of said sub-core walls and the sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding sub-rooms, one folding sub-room attached under one of the folding rooms and also attached to the central sub-core; each folding sub-room comprising a plurality of sub-room wall members, and a folding sub-room floor section removably attached to and extending between the sub-room walls at a base of the sub-room walls; each of the sub-room wall members and the sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said sub-room floor section being pivotedly connected at one end thereof to said sub-core floor section; said sub-room wall members being removably attached to said sub-room floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core or central sub-core and positioned in close proximity to and substantially parallel to a corresponding core wall or sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members;

wherein each folding sub-room floor section may be alternately detached from its sub-room wall members and pivoted inwardly toward said central sub-core and positioned in close proximity to and substantially parallel to a corresponding sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central sub-core to define a room adjacent to said central sub-core when attached to its sub-room wall members; and

wherein said core walls, room wall members, sub-core walls and sub-room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall, room wall member, sub-core wall, or sub-room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Support for claim 12 can be found throughout the originally filed specification, specifically from page 5, line 1 through page 7, line 2, which disclose the sub-core attached under the central core, in addition to sub-core walls, sub-core floor, sub-rooms and the like. In addition, the areas of support provided above for claim 1 apply equally here. In addition, support for a multiple story structure can be found on page 28, line 6, through page 30, line 2, as well as in Fig.7.

23. A three-story prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

a sub-core attached under the central core, said sub-core comprising a generally rectangular central sub-core comprising a plurality of sub-core walls, a sub-core floor section connected to and extending between the sub-core walls at a base of the sub-core walls, each of said sub-core walls and the sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding sub-rooms, one folding sub-room attached under one of the folding rooms and also attached to the central sub-core; each folding sub-room comprising a plurality of sub-room wall members, and a folding sub-room floor section removably attached to and extending between the sub-room walls at a base of the sub-room walls; each of the sub-room wall members and the sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said sub-room floor section being pivotedly connected at one end thereof to said sub-core floor section; said sub-room wall members being removably attached to said sub-room floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core or central sub-core and positioned in close proximity to and substantially parallel to a corresponding core wall or sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members;

wherein each folding sub-room floor section may be alternately detached from its sub-room wall members and pivoted inwardly toward said central sub-core and positioned in close proximity to and substantially parallel to a corresponding sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central sub-core to define a room adjacent to said central sub-core when attached to its sub-room wall members;

a second sub-core attached under the sub-core, said second sub-core comprising a generally rectangular central second sub-core comprising a plurality of second sub-core walls, a second sub-core floor section connected to and extending between the second sub-core walls at a base of the second sub-core walls, each of said second sub-core walls

and the second sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding second sub-rooms, one folding second sub-room attached under one of the folding sub-rooms and also attached to the central second sub-core; each folding second sub-room comprising a plurality of second sub-room wall members, and a folding second sub-room floor section removably attached to and extending between the second sub-room walls at a base of the second sub-room walls; each of the second sub-room wall members and the second sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said second sub-room floor section being pivotedly connected at one end thereof to said second sub-core floor section; said second sub-room wall members being removably attached to said second sub-room floor section;

wherein each folding second sub-room floor section may be alternately detached from its second sub-room wall members and pivoted inwardly toward said central second sub-core and positioned in close proximity to and substantially parallel to a corresponding second sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central second sub-core to define a room adjacent to said central second sub-core when attached to its second sub-room wall members; and

wherein said core walls, room wall members, sub-core walls, sub-room wall members, second sub-core walls, and second sub-room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall, room wall member, sub-core wall, sub-room wall member, second sub-core wall, or second sub-room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Support for claim 23 can be found throughout the originally filed specification, specifically from page 7, line 4 through page 10, line 22, which disclose the second sub-core attached under the sub-core, in addition to second sub-core walls, second sub-core floor, second sub-rooms and the like. In addition, the areas of support provided above for claims 1 and 12 apply equally here. In addition, support for a multiple story structure can be found on page 28, line 6, through page 30, line 2, as well as in Fig.7. Specifically, support for a three story structure is found on page 29, line 24.

37. A process for forming a prefabricated folding structure comprising:
I. providing a trailer which comprises a rectangular framework, which framework is disposed on at least four wheels, an upper edge of the rectangular framework comprising a channel around a periphery of the framework;

II. forming a habitable structure on the trailer by erecting a generally rectangular central core comprising a plurality of core walls, a lowermost portion of each of the core walls being positioned within the channel of the trailer framework, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

attaching a plurality of folding rooms to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

pivotedly connecting at least one said room floor section at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core and positioned in close proximity to and substantially parallel to a corresponding core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members; and

wherein said core walls and room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Support for the process of claim 37 can be found throughout the originally filed specification, specifically from page 10, line 24 through page 12, line 7. Support for the providing of a trailer, and forming a habitable structure on the trailer, can be found on page 16, lines 25-28, and page 31 lines 7-18, as well as Fig.11. Support for the remainder of claim 37 is provided above for claim 1, which applies equally here.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(a) Claims 1-6, 8-17, 19-28, and 30-33 stand rejected under 35 U.S.C. 103 over Colvin (US 4,660,332) in view of Nystrom (3,146,864).

(b) Claim 37 stand rejected under 35 U.S.C. 103 over Colvin (US 4,660,332) in view of Nystrom (US 3,146,864) and in further view of Smith (US 5,461,832).

VII. ARGUMENTS

(a) The Examiner has rejected claims 1-6, 8-17, 19-28, and 30-33 under 35 U.S.C. 103 as being unpatentable over Colvin (US 4,660,332) in view of Nystrom (3,146,864). Appellants respectfully urge that this is not the case.

The Examiner takes the position that it would have been obvious for one skilled in the art to combine these references and produce the presently claimed invention. Applicants respectfully urge that this is not the case, and that this ground of rejection is overcome by the previous claim amendment.

The present invention relates to prefabricated folding structures having floor, wall, and roof members that fold inwardly upon itself to produce a compact folded transportable structure. The present claims provide a prefabricated folding structure comprising:

> a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core and positioned in close proximity to and substantially parallel to a corresponding core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members; and

wherein said core walls and room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Additional embodiments of the invention provide multi-story prefabricated folding structures similarly formed, but having two, three, or more levels stacked upon each other.

The Colvin reference provides a prefabricated folding structure. However, it is urged that the cited references fail to teach or suggest several required features of the improved structure provided by the presently claimed invention. Specifically, the present invention requires that the core floor section, core roof section, room wall members, room floor section, and room roof section comprise a plurality of spaced *metal channel beams.* Certain embodiments additionally require that the core walls and room wall members further comprise a plurality of spaced *metal channel studs.* Such metal beams and studs are not taught by Colvin. Rather, as the Examiner agrees, Colvin provides wooden beams and wooden studs which are assembled to form a foldable structure. It is urged that the presently claimed structures having *metal* beams would clearly be more durable than Colvin's wooden structures. It is known that structures having a wooden framework may become infested with termites, or may easily become warped or damaged if exposed to elements such as wind and water. While certain wooden components such as plywood flooring may be easily replaceable, replacing the wooden *framework* of a structure would be very costly and time consuming. Thus, the use of a metal framework in the presently claimed invention is advantageous and desirable. Clearly though, the size, shape, positioning, and other parameters of the presently required metal beams and studs must be particularly chosen such that they do not hinder the foldability or portability of the overall structure.

As shown above, the present claims require that the core walls and room wall members further comprise a plurality of spaced *metal channel studs.* It is required that at least one of these metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and an *end* of the metal channel stud rests on an opposite edge flange of the metal channel beam. It is urged that this *wall* arrangement having a metal stud positioned within the metal beam provides enhanced strength to both the walls and the overall structure, and is not taught or even contemplated in the cited art. Applicants urge that Colvin does not teach or suggest

that any of their walls have such a stud arrangement at all, much less containing the metal channel beams and studs arranged as presently required.

The Examiner has agreed that Colvin fails to teach a structure which comprises a plurality of metal channel beams. Thus, the Examiner cites Nystrom for disclosing a building made of metal beams. However, it is urged that while Nystrom does relate to metal buildings, it does not provide *any* teaching or suggestion that their metal building arrangements would or could be used in formulating a *folding* or *portable* structure. Nystrom indeed uses metal channel beams in their construction. However, their structure is *rigid* and is intended to be *permanently* located at the site where it is assembled. This is evidenced by the use of concrete in their assembly process, wherein their columns 10 are filled with concrete 12 (see Fig.1). In addition, Nystrom does not teach any embodiment where their metal beams are *pivotable* or *detachable* at all. It is submitted that neither Nystrom's arrangement of materials nor their selection of materials would be sufficient for forming a structure having components which are pivotable or detachable in the manner presently required. Thus, it is respectfully urged that the Examiner is looking beyond the teachings of the references and is incorrectly *inferring* that the metal beam structure of Nystrom could be used in forming a foldable, portable product. Further, regarding the present claims, it is urged that Nystrom does not provide a *wall* arrangement as presently claimed and as shown in Fig.10, wherein a stud is inserted within a notch cut into the side edge flange of a metal channel beam, wherein an *end of the stud* rests on an opposite edge flange of the metal channel beam. Indeed Nystrom provides a *roof* arrangement in their Figs.17-19 wherein two rafter beams are slotted at their ends, which Nystrom refers to as "notched". However, these "notches" are actually metal flap-like structures formed in the ends of the beams of Nystrom. These flaps are structurally *weak* and subject to *metal fatigue*, a clearly undesirable consequence. In contrast, the present invention requires that a structurally strong, un-modified end of a metal channel stud directly abuts a flange of a metal channel beam, in an arrangement which avoids metal fatigue and actually enhances the strength of the structure. Again, this required arrangement is not taught or suggested by Nystrom or Colvin. Thus, it is

urged that even upon a hypothetical combining of Colvin and Nystrom, the presently claimed invention is not taught or suggested by the cited art.

Regarding the dependent claims, it is submitted that each of these claims relate to a *narrower* embodiment than those of the independent claims 1, 12, and 23. Thus, where the independent claims are sufficiently inventive in view of the cited references for the reasons stated above, those claims depending from claims 1, 12, and 23, respectively, should be considered inventive in view of Colvin and Nystrom as well.

For all of the above reasons, claims 1-6, 8-17, 19-28, and 30-33 are therefore urged to be patentable over the cited references, it is respectfully requested that the 35 U.S.C. 103 rejection be overruled.

(b) The Examiner has rejected claim 37 under 35 U.S.C. 103 as being unpatentable over Colvin (US 4,660,332) in view of Nystrom (US 3,146,864) and in further view of Smith (US 5,461,832).

Claim 37 relates to a process for forming a prefabricated folding structure. Specifically, a prefabricated folding structure such as that described throughout the specification is assembled on a trailer having wheels such that the assembled structure may be transported. The Examiner asserts that Colvin and Nystrom teach every feature of claim 37 except for a trailer having a rectangular framework and four wheels. In an effort to fill the voids of these references, the Examiner cites Smith for teaching a foldable building with wheels. However, Applicants respectfully submit that the combination of these three references still fails to obviate the presently claimed invention.

First, the arguments against the Colvin and Nystrom references are repeated from above and apply equally here. Specifically, Colvin relates to a foldable structure which is assembled from wooden beams and wooden studs. This differs from the present invention which specifically requires that the core floor section, core roof section, room

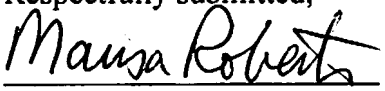
wall members, room floor section, and room roof section comprise a plurality of spaced *metal channel beams.* Certain embodiments additionally require that the core walls and room wall members further comprise a plurality of spaced *metal channel studs.* Such metal beams and studs are not taught by Colvin. In addition, Colvin fails to teach the wall arrangement now required by the present claims, wherein the core walls and room wall members comprise a plurality of spaced metal channel studs, and wherein at least one of the studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam. Nystrom also fails to teach or suggest this required wall arrangement, which enhances the structural integrity of the present invention. While Nystrom is cited for teaching a metal building structure, it is urged that neither Nystrom's arrangement of materials nor their selection of materials would be sufficient for forming a structure having components which are pivotable or detachable in the manner presently required. That is, the Examiner has no basis for his conclusion that the metal beam structure of Nystrom could be used in forming a foldable, portable product. It is urged that one skilled in the art would not have been motivated to incorporate the permanent, rigid structure of Nystrom's buildings into the foldable, portable product of Colvin in an effort to formulate the presently claimed invention. Further, it is urged that even upon such a combining, the present claims would fail to be obviated by Colvin and Nystrom.

While Smith does teach a transportable folding building which may be formed on a trailer, this reference fails to overcome the deficiencies of the Colvin and Nystrom references. That is, like Colvin and Nystrom, this reference fails to teach or suggest a prefabricated folding structure having the required features of the present claims. Thus, even if one were to combine the trailer of Smith with the teachings of Colvin and Nystrom, the present claims would still fail to be obviated for the reasons stated above. Applicants therefore respectfully request that the 35 U.S.C. 103 rejection of

claim 37 should be overruled.

Applicants submit that none of the cited references, taken alone or in combination, teaches or suggests the invention claimed by Applicants. For all the above reasons, claims 1-6, 8-17, 19-28, 30-33, and 37 are urged to be patentable over the cited references, and the rejections should be overruled.

Respectfully submitted,



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Date: December 23, 2010

VIII. CLAIMS APPENDIX

1. A prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core and positioned in close proximity to and substantially parallel to a corresponding core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members; and

wherein said core walls and room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

2. The structure of claim 1 wherein the beams comprise steel.

3. The structure of claim 1 wherein the beams pivot around bolts.

4. The structure of claim 1 wherein the beams have a generally U-shaped cross-section with a wide flat side extending to opposite perpendicular edges.

5. The structure of claim 1 wherein the beams have a generally C-shaped cross-section with a wide flat side extending to opposite perpendicular edges having perpendicularly inwardly positioned edge flanges.

6. The structure of claim 1 wherein adjacent beams are positioned with their respective wide flat sides in juxtaposition and said beams being attached together with a plurality of bolts and nuts.

8. The structure of claim 1 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another.

9. The structure of claim 1 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another; and each room roof section being pivotedly connected to the core roof section via an end of a rafter beam on the same side of the central core as each room floor section is connected to the core floor section.

10. The structure of claim 9 wherein the core roof section further comprises a plurality of metal channel core roof section supports, each one of said core roof section supports being positioned within a notch in one of the rafters and attached to said rafter via at least one bolt and nut such that said supports and said rafter beams are interlocking with one another.

11. The structure of claim 9 wherein each room roof section comprises a plurality of metal channel room roof section supports, each room roof section being pivotedly connected to the core roof section by pivotally connecting each of the room roof section supports by a bolt and nut to one of said rafter beams.

12. A multistory prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a

folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

a sub-core attached under the central core, said sub-core comprising a generally rectangular central sub-core comprising a plurality of sub-core walls, a sub-core floor section connected to and extending between the sub-core walls at a base of the sub-core walls, each of said sub-core walls and the sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding sub-rooms, one folding sub-room attached under one of the folding rooms and also attached to the central sub-core; each folding sub-room comprising a plurality of sub-room wall members, and a folding sub-room floor section removably attached to and extending between the sub-room walls at a base of the sub-room walls; each of the sub-room wall members and the sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said sub-room floor section being pivotedly connected at one end thereof to said sub-core floor section; said sub-room wall members being removably attached to said sub-room floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core or central sub-core and positioned in close proximity to and substantially parallel to a corresponding core wall or sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members;

wherein each folding sub-room floor section may be alternately detached from its sub-room wall members and pivoted inwardly toward said central sub-core and positioned in close proximity to and substantially parallel to a corresponding sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central sub-core to define a room adjacent to said central sub-core when attached to its sub-room wall members; and

wherein said core walls, room wall members, sub-core walls and sub-room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall, room wall member, sub-core wall, or sub-room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

13. The structure of claim 12 wherein the beams comprise steel.

14. The structure of claim 12 wherein the beams pivot around bolts.

15. The structure of claim 12 wherein the beams have a generally U-shaped cross-section with a wide flat side extending to opposite perpendicular edges.

16. The structure of claim 12 wherein the beams have a generally C-shaped cross-section with a wide flat side extending to opposite perpendicular edges having perpendicularly inwardly positioned edge flanges.

17. The structure of claim 12 wherein adjacent beams are positioned with their respective wide flat sides in juxtaposition and said beams being attached together with a plurality of bolts and nuts.

19. The structure of claim 12 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another.

20. The structure of claim 12 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another; and each room roof section being pivotedly connected to the core roof section via an end of a rafter beam on the same side of the central core as each room floor section is connected to the core floor section.

21. The structure of claim 20 wherein the core roof section further comprises a plurality of metal channel core roof section supports, each one of said core roof section supports being positioned within a notch in one of the rafters and attached to said rafter via at least one bolt and nut such that said supports and said rafter beams are interlocking with one another.

22. The structure of claim 20 wherein each room roof section comprises a plurality of metal channel room roof section supports, each room roof section being pivotedly connected to the core roof section by pivotally connecting each of the room roof section supports by a bolt and nut to one of said rafter beams.

23. A three-story prefabricated folding structure comprising:

a generally rectangular central core comprising a plurality of core walls, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding rooms attached to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one of said room floor section being pivotedly connected at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

a sub-core attached under the central core, said sub-core comprising a generally rectangular central sub-core comprising a plurality of sub-core walls, a sub-core floor section connected to and extending between the sub-core walls at a base of the sub-core

walls, each of said sub-core walls and the sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding sub-rooms, one folding sub-room attached under one of the folding rooms and also attached to the central sub-core; each folding sub-room comprising a plurality of sub-room wall members, and a folding sub-room floor section removably attached to and extending between the sub-room walls at a base of the sub-room walls; each of the sub-room wall members and the sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said sub-room floor section being pivotedly connected at one end thereof to said sub-core floor section; said sub-room wall members being removably attached to said sub-room floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core or central sub-core and positioned in close proximity to and substantially parallel to a corresponding core wall or sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members;

wherein each folding sub-room floor section may be alternately detached from its sub-room wall members and pivoted inwardly toward said central sub-core and positioned in close proximity to and substantially parallel to a corresponding sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central sub-core to define a room adjacent to said central sub-core when attached to its sub-room wall members;

a second sub-core attached under the sub-core, said second sub-core comprising a generally rectangular central second sub-core comprising a plurality of second sub-core

walls, a second sub-core floor section connected to and extending between the second sub-core walls at a base of the second sub-core walls, each of said second sub-core walls and the second sub-core floor section comprising a plurality of spaced metal channel beams having at least one flat side;

a plurality of folding second sub-rooms, one folding second sub-room attached under one of the folding sub-rooms and also attached to the central second sub-core; each folding second sub-room comprising a plurality of second sub-room wall members, and a folding second sub-room floor section removably attached to and extending between the second sub-room walls at a base of the second sub-room walls; each of the second sub-room wall members and the second sub-room floor section comprising a plurality of spaced metal channel beams having at least one flat side;

at least one said second sub-room floor section being pivotedly connected at one end thereof to said second sub-core floor section; said second sub-room wall members being removably attached to said second sub-room floor section;

wherein each folding second sub-room floor section may be alternately detached from its second sub-room wall members and pivoted inwardly toward said central second sub-core and positioned in close proximity to and substantially parallel to a corresponding second sub-core wall and thereby form a compact folded structure, or pivoted outwardly away from said central second sub-core to define a room adjacent to said central second sub-core when attached to its second sub-room wall members; and

wherein said core walls, room wall members, sub-core walls, sub-room wall members, second sub-core walls, and second sub-room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall, room wall member, sub-core wall, sub-room wall

member, second sub-core wall, or second sub-room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

24. The structure of claim 23 wherein the beams comprise steel.

25. The structure of claim 23 wherein the beams pivot around bolts.

26. The structure of claim 23 wherein the beams have a generally U-shaped cross-section with a wide flat side extending to opposite perpendicular edges.

27. The structure of claim 23 wherein the beams have a generally C-shaped cross-section with a wide flat side extending to opposite perpendicular edges having perpendicularly inwardly positioned edge flanges.

28. The structure of claim 23 wherein adjacent beams are positioned with their respective wide flat sides in juxtaposition and said beams being attached together with a plurality of bolts and nuts.

30. The structure of claim 23 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another.

31. The structure of claim 23 wherein said core roof section comprises a plurality of rafters, said rafters comprising a pair of metal channel beams having at least one flat side, and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut, one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking

with one another; and each room roof section being pivotedly connected to the core roof section via an end of a rafter beam on the same side of the central core as each room floor section is connected to the core floor section.

32. The structure of claim 31 wherein the core roof section further comprises a plurality of metal channel core roof section supports, each one of said core roof section supports being positioned within a notch in one of the rafters and attached to said rafter via at least one bolt and nut such that said supports and said rafter beams are interlocking with one another.

33. The structure of claim 31 wherein each room roof section comprises a plurality of metal channel room roof section supports, each room roof section being pivotedly connected to the core roof section by pivotally connecting each of the room roof section supports by a bolt and nut to one of said rafter beams.

37. A process for forming a prefabricated folding structure comprising:
I. providing a trailer which comprises a rectangular framework, which framework is disposed on at least four wheels, an upper edge of the rectangular framework comprising a channel around a periphery of the framework;

II. forming a habitable structure on the trailer by erecting a generally rectangular central core comprising a plurality of core walls, a lowermost portion of each of the core walls being positioned within the channel of the trailer framework, a core floor section connected to and extending between the core walls at a base of the core walls, and a core roof section connected to and over the core walls and over the core floor section; each of said core walls, core floor section and core roof section comprising a plurality of spaced metal channel beams having at least one flat side;

attaching a plurality of folding rooms to the central core; each folding room comprising a plurality of room wall members, a folding room floor section removably

attached to and extending between the room walls at a base of the room walls and a folding a room roof section removably attached to and extending over the room wall members and extending over the room floor section; each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced metal channel beams having at least one flat side;

pivotedly connecting at least one said room floor section at one end thereof to said core floor section; at least said one room roof section being pivotedly connected at one end thereof to said core roof section; said room wall members being removably attached to said room floor section and said room roof section; each room roof section being pivotedly connected to the core roof section on the same side of the central core as each room floor section is connected to the core floor section;

wherein each folding room floor section and each folding room roof section may be alternately detached from its room wall members and pivoted inwardly toward said central core and positioned in close proximity to and substantially parallel to a corresponding core wall and thereby form a compact folded structure, or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members; and

wherein said core walls and room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall or room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.